

INEEL Long-Term Stewardship Implementation Plan



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INEEL Long-Term Stewardship Implementation Plan

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ABSTRACT

The Department of Energy has established long-term stewardship programs to protect human health and the environment at sites where residual contamination remains after cleanup. Careful planning is necessary to ensure that stewardship is effective and efficient. In 2001, the Idaho National Engineering and Environmental Laboratory (INEEL) management established the long-term stewardship program and consolidated postremediation responsibilities and activities.

Two INEEL documents define the INEEL long-term stewardship program. The *INEEL Long-Term Stewardship Strategic Plan* states the strategic objectives of INEEL long-term stewardship. This *INEEL Long-Term Stewardship Implementation Plan* describes specific long-term stewardship activities that meet the objectives of the strategic plan and also identifies additional activities and modifications to current systems needed to meet strategic plan objectives. These two documents together form the INEEL long-term stewardship plan.

The INEEL long-term stewardship program personnel will update this plan as needed to reflect changes in cleanup decisions, legal requirements, site missions, funding projections, lessons learned, and other pertinent information. This plan and the updates will be the basis for prioritizing long-term stewardship scope.

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CONTENTS

ABSTRACT	iii
ACKNOWLEDGMENTS	v
ACRONYMS AND INITIALISMS	ix
DEFINITIONS	xi
1. INTRODUCTION	1
2. LONG-TERM STEWARDSHIP BACKGROUND	1
2.1 Initial Public Involvement	3
3. ASSUMPTIONS	4
4. ROLES AND RESPONSIBILITIES	4
4.1 Department of Energy	4
4.1.1 Headquarters	4
4.1.2 Field Operations Office	4
4.2 Contractors	4
4.3 Regulators	5
4.4 The Shoshone-Bannock Tribes	5
4.5 Local Municipal Governments	5
4.6 Other Stakeholders	5
5. STRATEGIC OBJECTIVES	6
5.1 Goal 1: Understand the Full Scope and Implications of INEEL's Long-Term Stewardship Responsibilities	6
5.1.1 Strategic Objective 1.1	6
5.1.2 Strategic Objective 1.2	9
5.1.3 Strategic Objective 1.3	10
5.2 Goal 2: Maintain Acceptable Levels of Risk Established by Remedies	15
5.2.1 Strategic Objective 2.1	15
5.2.2 Strategic Objective 2.2	17

5.3	Goal 3: Sustain Knowledge of Residual Contamination in a Manner That Retains the Relevance, Accessibility, and Integrity of the Information for Stewards, Decision-Makers, and Affected Parties	19
5.3.1	Strategic Objective 3.1	19
5.3.2	Strategic Objective 3.2	22
5.4	Goal 4: Support Stakeholder and Shoshone-Bannock Tribal Understanding of and Involvement in Long-Term Stewardship.....	23
5.4.1	Strategic Objective 4.1	23
5.4.2	Strategic Objective 4.2	25
5.5	Goal 5: Incorporate Long-Term Stewardship into INEEL’s Decision-Making Processes	26
5.5.1	Strategic Objective 5.1	26
5.5.2	Strategic Objective 5.2	28
5.6	Goal 6: Sustain the Ability to Conduct Long-Term Stewardship Activities	29
5.6.1	Strategic Objective 6.1	29
5.7	Goal 7: Reduce Uncertainty and Cost Related to Long-Term Stewardship Activities	31
5.7.1	Strategic Objective 7.1	31
5.7.2	Strategic Objective 7.2.....	32
5.7.3	Strategic Objective 7.3	33
6.	FUTURE STEPS IN INEEL LONG-TERM STEWARDSHIP PROGRAM DEVELOPMENT....	34
7.	REFERENCES.....	35

ACRONYMS AND INITIALISMS

BLM	Bureau of Land Management
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFLUP	Comprehensive Facility and Land Use Plan
DOD	Department of Defense
DOE	U.S. Department of Energy
DOE-HQ	U.S. Department of Energy Headquarters
DOE-ID	U.S. Department of Energy Idaho Operations Office
EM	Office of Environmental Management
EPA	U.S. Environmental Protection Agency
ESER	environmental surveillance, education, and research
FFA/CO	Federal Facility Agreement and Consent Order
FOIA	Freedom of Information Act
HWMA	Hazardous Waste Management Act
INEEL	Idaho National Engineering and Environmental Laboratory
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NE	Office of Nuclear Energy, Science, and Technology
Ou	operable unit
PLN	plan
RCRA	Resource Conservation and Recovery Act
ROD	Record of Decision

DEFINITIONS

Aquifer. Layer of water-saturated rock or soil through which water flows in a quantity useful to people. The rate of flow depends upon porosity, permeability, and the slope of the water table.

Brownfield site. Real property (with certain legal exclusions and additions), the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act). Federal law that establishes a program to identify, evaluate, and remediate sites where hazardous substances may have been released (leaked, spilled, or dumped) to the environment.

Cultural resources. Include but are not limited to (1) prehistoric, historic, and ethnohistoric archaeological materials (artifacts) and sites on the ground surface or buried beneath it, (2) standing structures and associated components more than 50 years old or of importance because they represent a major historical theme or era, (3) cultural and natural places, select natural resources, and sacred objects important to Native Americans and other ethnic groups, and (4) American folk life traditions and arts.

End state. Physical condition when cleanup actions are complete.

Federal Facility Agreement and Consent Order (FFA/CO). Agreement among the Department of Energy (DOE), the United States Environmental Protection Agency (EPA), and the state of Idaho that establishes a process and schedule to evaluate potentially contaminated sites at the INEEL, determine if remediation is warranted, and select remedy alternatives.

Groundwater. Water that soaks into the ground and percolates downward through rock or soil until an impermeable layer stops it. Natural sources are rainfall, snowmelt, and water that seeps into the ground beneath streams, rivers, and lakes. Other sources can include irrigated fields, canals, wastewater drain fields, injection wells, leaking pipes, and industrial cooling ponds.

Hazardous waste. Waste regulated under Resource Conservation and Recovery Act (RCRA) Subtitle C. A solid waste or combination of solid wastes that, because of quantity, concentration, or physical or chemical characteristics, may cause or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Institutional controls. Generally includes all nonengineered restrictions on activities or on access or exposure to land, groundwater, surface water, waste and waste disposal areas, and other areas or media. Some common examples of tools to implement institutional controls include restrictions on use or access, zoning, governmental permitting, public advisories, and installation master plans. Institutional control commitments are necessary at sites where contamination levels prevent unrestricted and unlimited use.

Long-term stewardship. All activities necessary to protect human health and the environment after remediation, disposal, or stabilization of a site or part of a site. INEEL expanded the scope of long-term stewardship to include conservation of ecological and cultural resources and awareness of technology changes in addition to surveillance and maintenance of remedies.

Mixed waste. Waste that contains both radioactive and hazardous waste components

Perched water. Water that collects above a layer of relatively impermeable material, such as clay, and then slowly moves downward to the aquifer; perched water zones are often present beneath reservoirs and industrial facilities, but disappear when the surface water source is eliminated.

Radioactive waste. Solid, liquid, or gaseous material that contains radionuclides regulated under the Atomic Energy Act of 1954, as amended, and is of negligible economic value considering recovery costs.

RCRA (Resource Conservation and Recovery Act). Federal waste management law. Its regulations govern the management (transportation, treatment, storage, and disposal) of solid waste and the generation, accumulation, recycling, and handling of hazardous waste. RCRA waste includes material listed on one of the EPA's hazardous waste lists or material that meets one or more of EPA's four characteristics: ignitability, corrosivity, reactivity, or toxicity.

Record of Decision (ROD). Legal agreement that explains which remedies will be used at a site and why. The Responsiveness Summary contains public comments on the proposed actions and the agencies' responses.

Remedial Investigation/Feasibility Study (RI/FS). Identifies contaminants in an area, assesses the risk they pose to human health and the environment, and evaluates remedial options.

Remediation. Process of cleaning up to an acceptable level of risk a site where a hazardous or radioactive substance has been released.

Residual contamination. Amount of a hazardous or radioactive pollutant remaining in the environment after a natural or technological remediation process.

Unexploded ordnance. Military munitions that have been primed, armed, or fused and fired, dropped, or launched but through malfunction or design have failed to explode. Unexploded ordnance poses a physical risk to human safety through the danger of explosion when it is handled or contacted, especially by machinery.

Vadose zone. Unsaturated layers of rock and soil extending from the ground surface down to the water table, or aquifer. Contaminants move at different rates through the vadose zone depending on how they react with the rock and sedimentary material.

Vapor vacuum extraction. Technology that extracts vapor from beneath the ground by inducing a vacuum in wells located at specific depths. The vacuum forces underground vapors to flow toward the well and up into an aboveground treatment system.

INEEL Long-Term Stewardship Implementation Plan

1. INTRODUCTION

In January 2000, the Department of Energy (DOE) directed all sites where the Office of Environmental Management (EM) was the landlord to submit long-term stewardship plans to DOE headquarters and incorporate these plans into their project baseline summary-funding document. The Department of Energy Idaho Operations Office (DOE-ID) took the first steps toward establishing a comprehensive long-term stewardship approach at the Idaho National Engineering and Environmental Laboratory (INEEL) by committing to write a long-term stewardship plan and put in place a discrete programmatic budget for an integrated long-term stewardship program by September 30, 2003.

The *INEEL Long-Term Stewardship Strategic Plan* (DOE 2002a) fulfills part of DOE-ID's and INEEL's commitment to the DOE and the public to write a long-term stewardship plan. The strategic plan contains INEEL long-term stewardship goals, objectives, and mission and vision statements. This implementation plan describes current and future activities that support objectives in the *INEEL Long-Term Stewardship Strategic Plan*. This implementation plan combined with the strategic plan becomes the INEEL long-term stewardship plan and the guiding document of the INEEL long-term stewardship program.

The purposes of the implementation plan are to compare current INEEL activities with the strategic plan objectives, prioritize, optimize, and improve activities that support the objectives, and, ultimately, measure how successfully those long-term stewardship activities met the goals and objectives over the life cycle of the program. Deficiencies will be noted and additional activities needed to achieve each strategic objective will be identified. This implementation plan identifies modifications to operations that will enable processes and systems to meet the strategic plan objectives. The identified opportunities for improvement will be the basis for planning, prioritizing, and implementing the long-term stewardship program. As the long-term stewardship program matures, INEEL will review and update this plan as necessary to reflect any status changes or additional opportunities for improvement.

2. LONG-TERM STEWARDSHIP BACKGROUND

During previous work at the INEEL, hazardous and radioactive contaminants were released into the air, soil, and water. The DOE conducted remediation projects to reduce risk to public health and the environment posed by those contaminants. Remediation projects and final remedy decisions are governed by regulatory agreements developed among the DOE, the U.S. Environmental Protection Agency (EPA), and the state of Idaho, with input from stakeholders and the Shoshone-Bannock Tribes. All remediation projects use risk-based decision-making to determine how much risk is acceptable and thus how much contamination must be removed. In some cases, the risk from remaining contaminants is low enough to allow the site to be managed safely simply by controlling access to the area and allowing the land to be used for industrial purposes only. At some sites under long-term stewardship, additional remediation activities may be initiated if the risk to human health and the environment increases.

The term "long-term stewardship" refers to all activities necessary to protect human health and the environment after remediation, disposal, or stabilization of a site or part of a site (DOE 2001). DOE-HQ's *Report to Congress on Long-Term Stewardship* (DOE 2001) focuses on maintenance of remedies. INEEL expanded the scope to include conservation of ecological and cultural resources and awareness of technology changes in addition to surveillance and maintenance of remedies. This expansion reflects stakeholder and Shoshone-Bannock Tribe comments on the *INEEL Long-Term Stewardship Strategic*

Plan and public involvement in other INEEL documents prior to development of the long-term stewardship strategic plan.

Administratively, long-term stewardship begins when a remedy is complete, i.e., when a removal action is finished, construction of an engineered barrier is complete, remedial action objectives are met, or when a remedy is operating in a steady state (such as groundwater pump-and-treat facilities). Specific long-term stewardship activities at a given site will depend on the site conditions and the residual hazards. Site-level activities may include operating, maintaining, and monitoring landfill caps, groundwater pump-and-treat systems, and other engineered systems used to prevent residual hazards from migrating and reaching human and environmental receptors. Site-level activities may also include ensuring the continued effectiveness of fences, ordinances, building permits, easements, and deed restrictions used to prevent human and environmental receptors from reaching residual hazards. Long-term stewardship program management tasks, some of which may not occur at a local site level, include supporting, evaluating, and implementing new technologies; emergency response; compliance oversight; land management; ecological and cultural resource management; information management; budget preparation and other administrative support; site redevelopment; and community liaison and planning.

The INEEL was actively conducting long-term stewardship activities before the creation of the long-term stewardship program. These various INEEL stewardship activities have been managed under several separate management plans. For efficiency, INEEL consolidated CERCLA-governed stewardship activities into a single organization in 2001. Although CERCLA regulates most INEEL stewardship activities, the INEEL expects some future stewardship activities to be regulated under the Resource Conservation and Recovery Act (RCRA), including postclosure groundwater monitoring.

The long-term stewardship program does not determine end states or make remedy decisions; rather, the program maintains the end states arrived at through agreement with DOE regulators. An area's end state includes all characteristics of a site following completion of remediation (e.g., type, concentration, and spatial distribution of residual contamination, surveillance and monitoring, site access restrictions and institutional controls, and land use as dictated by the residual contamination). For this reason, long-term stewardship program personnel must be aware of the commitments and agreements for long-term stewardship included in the following activities:

- End state planning
- CERCLA remedial investigations, feasibility studies, remedy selection, remedial design, or remedial action
- Hazardous Waste Management Act (HWMA)/RCRA corrective actions, closure processes, or development of postclosure permits
- Ecological and cultural assessments required for studies of feasible remedies and implementation

The long-term stewardship program at the INEEL was created to manage all postremediation responsibilities regardless of what law or agreement governs the remedy. The program does NOT change any agreed-upon obligations for operating, maintaining, or monitoring; for institutional controls; or for postclosure care identified in Records of Decision (RODs), HWMA/RCRA closure plans, or other agreements. Rather, the long-term stewardship program is a way to implement agreed-upon postremediation responsibilities under a variety of regulations in a more efficient and focused way.

2.1 Initial Public Involvement

Comments from the public, tribal governments, and INEEL employees have resulted in changes within the INEEL long-term stewardship program. Some of the more significant changes made to the foundation of the program during the development of the strategic plan are included here for readers unfamiliar with previous commenter issues.

Before the first draft of the strategic plan was written, INEEL long-term stewardship personnel researched documents recording local and national public comments about long-term stewardship to extract the concerns of stakeholders and the Shoshone-Bannock Tribes. These comments were used to develop proposed vision and mission statements and the implementing objectives. The INEEL long-term stewardship personnel then consulted other DOE sites with long-term stewardship activities, the Shoshone-Bannock Tribes, the INEEL Citizens Advisory Board, federal and state agencies, regulatory organizations, environmental advocacy groups, a local Resource Conservation and Development Council, and local municipal governments. As a result of these consultations, personnel revised many of the objectives and the vision and mission statements before issuing the document for formal public comment.

The vision of the INEEL long-term stewardship program is the “safe and informed use of the INEEL by multiple generations following remediation” (DOE 2002a). The mission statement describes how the INEEL program will achieve the vision. The INEEL’s long-term stewardship mission is “to ensure the safe and informed use of INEEL facilities and land” following remediation through decisions and actions that do the following:

- Protect human health and the environment from residual contamination
- Conserve ecological and cultural resources
- Respond to regulatory, political, and technology changes.

Local stakeholders and the Shoshone-Bannock Tribes expressed concerns about management of INEEL land after DOE finishes its mission. Because DOE plans to continue using the INEEL as a national multipurpose laboratory, DOE intends to retain management of the INEEL lands as currently configured. The INEEL lands were acquired through a combination of Public Land Orders (PLO-318, PLO-545, PLO-637, PLO-1770) and purchases, specifically to support the mission of the DOE. The withdrawal of these lands from the public domain for DOE’s use has no time limitation or expiration, and authority for such use is currently expected to remain with DOE. However, regardless of future land-use decisions, the federal government has a legal obligation to conserve ecological and cultural resources and maintain control of and limit access to residually contaminated areas that continue to pose a risk to human health and the environment. Before INEEL makes any final land-use decisions, DOE will consult stakeholders and the Shoshone-Bannock Tribes to ensure that their concerns are considered. DOE also has an Agreement in Principle with the Shoshone-Bannock Tribes (DOE 2002b) establishing the protocols and expectations for interaction about the INEEL. DOE will continue to abide by that agreement when making land-use decisions for the INEEL.

DOE’s 2002 announcement to change INEEL’s landlord responsibility from EM to the Office of Nuclear Energy, Science, and Technology (NE) brought questions from stakeholders and the Shoshone-Bannock Tribes about stewardship responsibility. The current DOE assumption is that EM will continue to fund and manage stewardship activities until the Idaho Completion Project finishes remediation activities. Once the EM mission is complete, NE as the site landlord is expected to assume remaining long-term stewardship responsibility. Postponing the transfer to NE until remediation is complete would allow time to (1) establish a plan and operating baseline for long-term stewardship

activities, (2) determine and reprogram resources and budget required to execute those activities, and (3) reach final agreement between EM and NE to conduct those activities (DOE 2001).

3. ASSUMPTIONS

The assumptions formulated for the strategic plan remain valid for this long-term stewardship implementation plan. Generally stated, these assumptions include DOE's continued management of the INEEL as a national laboratory, assurance of adequate handling and management of landlord responsibilities regardless of the landlord's identity, and transfer of responsibility for present or newly remediated locations to the long-term stewardship program. As the program matures or as changes in direction and planning occur at the INEEL, management will review the assumptions to determine their continued validity.

4. ROLES AND RESPONSIBILITIES

4.1 Department of Energy

The DOE has primary responsibility for planning, managing, and conducting long-term stewardship activities at the INEEL. DOE is responsible for identifying *what* activities are needed, in compliance with all legal requirements and in alignment with the strategic goals and objectives for long-term stewardship of the INEEL. DOE must also ensure these activities are adequately funded and is charged with annually developing and submitting an appropriate budget request for these activities. The DOE must confirm, through oversight and performance assessment, that all long-term stewardship activities are on schedule, meet quality requirements, and comply with the laws and regulations that govern the activities. DOE headquarters (DOE-HQ) and DOE-ID each have responsibilities associated with the long-term stewardship program.

4.1.1 Headquarters

The DOE-HQ role is largely to guide and support the field organization. DOE-HQ will identify national policies related to long-term stewardship and will work with the field organizations, congressional representatives, and national stakeholder organizations to develop policy direction and guidance. DOE-HQ is also a champion of the program, bringing focus and impetus to the collective development of the overall budget required for successful long-term stewardship across the complex.

4.1.2 Field Operations Office

DOE-ID, the local DOE staff who directly manage and oversee operations at the INEEL, is more immediately involved in planning, managing, and conducting long-term stewardship activities at the INEEL. Based on policies and guidance established by DOE-HQ, DOE-ID directs the contractors who do the stewardship work. DOE-ID directly oversees the work done in the field and must ensure, through surveillances, reviews, assessments, and other types of evaluations, that the work is done appropriately and safely. DOE-ID personnel interact with local stakeholders, regulators, municipal governments in the region of the INEEL, and the Shoshone-Bannock Tribes.

4.2 Contractors

The DOE hires contractors to perform the work in the field. The role of the contractor is to identify *how* to do the work most efficiently and in full compliance with requirements, budget limitations, and schedules. The contractors prepare annual work plans detailing the specific tasks necessary to follow the

direction DOE has given them. Contractors may hire subcontractors for specific tasks, and DOE-ID may also directly hire subcontractors when appropriate. It is the responsibility of the contractors (and subcontractors) to provide DOE-ID with estimates of how much time and money will be required for long-term stewardship work. DOE-ID then uses the estimates to develop an overall long-term stewardship program budget request.

4.3 Regulators

The INEEL is regulated primarily by the state of Idaho and the EPA Region 10 office. The regulators work directly with DOE-ID to develop the scope and schedule for cleanup and long-term stewardship. The state of Idaho has primacy for regulating cleanup governed by RCRA. EPA and the state work together to regulate cleanup governed by CERCLA. The regulators' responsibility is to ensure the safety and health of the Idaho public and protect the environment. They negotiate cleanup agreements with DOE, review the work while it is under way and when it is completed, and require that DOE provide various types of data and information to validate that the cleanup remedies protect human health and the environment. The regulators oversee DOE's management of long-term stewardship activities, and are an advocate of the public in ensuring the work is done.

4.4 The Shoshone-Bannock Tribes

The Shoshone-Bannock Tribes have a unique relationship with DOE and the site. Article 4 of the Fort Bridger Treaty of 1868 entitles the sovereign nation of the Shoshone-Bannock Tribes to hunting and fishing rights on unoccupied lands, and although it is recognized that the INEEL is considered occupied lands, the DOE and the Tribes have a legal agreement that provides tribal members with unique access to certain areas on site.

The Tribes provide valuable help with protecting site cultural and natural resources. The Tribes have helped DOE better understand the holistic interactions of the environment on site and have identified specific ecological resources that need to be protected. The Tribes act as consultant, adviser, and partner in managing cultural and ecological resources.

4.5 Local Municipal Governments

The elected representatives of the local governments in the surrounding communities affected by the INEEL are responsible, on behalf of their constituents, to stay informed about the progress of the long-term stewardship program. Local governments must be particularly willing to engage in, and consistently communicate about, land use planning decisions relevant to the INEEL. DOE is responsible for informing local governments about INEEL land use planning and regional economic impacts, and welcomes their involvement in considering the potential effects on and around the INEEL of mutual planning decisions. Local governments can assist DOE in managing the regional impact of long-term stewardship at the INEEL by taking advantage of information opportunities, providing feedback to DOE regarding the management and effects of long-term stewardship on their local communities, and regularly participating in planning when appropriate.

4.6 Other Stakeholders

Neighboring communities, environmental advocacy organizations, and the general public have similar roles in that they essentially act as validators of DOE's work. By staying informed of the progress of long-term stewardship activities and the management of the program, questioning what they don't understand, and asking for more information when needed, stakeholders can help DOE respond to their

concerns and ensure the program stays focused and on track. It is a fundamental right and a responsibility of citizens to stay informed about the activities of the government. Participating in annual reviews of the long-term stewardship program, reviewing information when it is made available, commenting on changes proposed for program documents or decisions, contacting DOE with questions about the program or activities—all are elements of the stakeholders’ role in ensuring successful long-term stewardship of the INEEL.

5. STRATEGIC OBJECTIVES

The objectives in this section (in italics) are quoted from the *INEEL Long-Term Stewardship Strategic Plan* (DOE 2002a). After each objective is a statement that describes the following:

- Status of current activities—a description of INEEL procedures or systems that already meet the intent of the objective
- Future implementation opportunities—a preliminary identification of deficiencies and proposed modifications that will better focus resources to meet long-term stewardship objectives. INEEL solicited the proposed modifications from INEEL personnel, stakeholders, and the Shoshone-Bannock Tribes. Opportunities will be reviewed and prioritized for inclusion in the INEEL work planning process for allocation of available funds. Inclusion under these “opportunities” headings does not confer automatic approval or ending of these activities.
- Performance measures – are used to objectively evaluate the progress towards achieving the strategic objectives and the overall development of the LTS program. Comments from stakeholders emphasized the need for performance measures as means to ensure the LTS program would be able to show measurable progress in reaching the goals of the LTS program. These performance measures will be evaluated and the results included with the update to the plan.

Proposed modifications represent some early thinking and advice about methods to implement stewardship at INEEL and are not commitments for implementation. During the annual work planning process for the long-term stewardship program, INEEL personnel will evaluate all suggestions for improvement and select the method or process that best satisfies the objective within existing ending and resource limits.

Each objective will be reviewed annually to determine current performance and the need for improvement. This review will be included in the update to this plan.

5.1 Goal 1: Understand the Full Scope and Implications of INEEL’s Long-Term Stewardship Responsibilities

5.1.1 Strategic Objective 1.1

Develop an integrated approach to identify and comply with applicable laws and regulations, legal agreements, policies, orders, and INEEL procedures that drive the conduct of long-term stewardship activities.

Status

The following two bodies of environmental regulations prescribe the requirements for long-term surveillance and maintenance that will ultimately be managed by the long-term stewardship program:

- The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) as implemented by the Federal Facility Agreement and Consent Order (FFA/CO) for the INEEL
- RCRA/HWMA.
- In addition, INEEL identified the following national laws that require the site to manage its natural and cultural resources:
 - Endangered Species Act
 - Federal Land Policy and Management Act
 - Executive Order 11514: Protection and Enhancement of Environmental Quality
 - Migratory Bird Treaty Act
 - National Historic Preservation Act
 - Archaeological Resources Protection Act
 - Native American Graves Protection and Repatriation Act.

For a complete list of long-term stewardship regulations compiled by DOE, see the following Internet site: <http://lts.apps.em.doe.gov/center/stewlink0.asp>

The long-term stewardship program will inherit a significant portion of its scope from remediation projects as they complete activities required by the FFA/CO of 1991 and will assume the projects' responsibility to comply with FFA/CO requirements. Procedures and processes are in place to meet all FFA/CO requirements such as preliminary scoping, interim action planning, ROD process, post-ROD process, remedial design scoping and process, remedial action scoping and process, and the operations and maintenance process. Most applicable to the INEEL long-term stewardship program are those requirements for continuing operations, maintenance, and institutional controls of remedial actions, in addition to CERCLA five-year remedy reviews.

All remedial action sites covered by a CERCLA ROD will have a five-year remedy review. During the reviews, overall effectiveness of site remedies will be evaluated. Factors to be reviewed include possible contaminant migration, potential release of hazardous or radioactive substances, condition of engineered barriers, and the effectiveness of access controls or land use restrictions required at sites with residual contamination. These reviews will ensure that any changes that might impact the effectiveness of a remedial action will be detected. EPA developed the five-year remedy review guidance and will be the lead agency for all CERCLA five-year remedy reviews.

Facilities regulated by RCRA/HWMA that have waste left in place at closure must comply with postclosure requirements for permitted facilities according to IDAPA 58.01.05.008 (40 CFR 264), including general RCRA standards for facilities and related requirements applicable to postclosure. In general, the requirements focus on security procedures and equipment, preparedness and prevention

activities, continuing inspections with defined schedules, and maintaining existing systems related to a remedy. Each unit closed under RCRA standards may also include unit-specific requirements for inspection, training, and groundwater monitoring. To date, the Waste Calcining Facility is the only facility closed under RCRA that requires a postclosure permit. After the entombed Waste Calcining Facility receives a postclosure permit, it becomes an INEEL long-term stewardship responsibility. The INEEL long-term stewardship program is ultimately responsible for satisfying postclosure permit requirements. The program ensures continued implementation and, if necessary, modification of existing management systems to control access via security clearances and signs, ensures that safety equipment alarms, communication devices, or firefighting equipment is in place for each remedy, and maintains and inspects landfill caps, stormwater systems, well monitoring systems, and security systems.

Management systems at the INEEL also address the requirements identified in the laws for cultural and natural resource management. The prime operating contractor coordinates activities for cultural resource management at the INEEL. The professional staff of the INEEL Cultural Resource Management Office has developed strategies and processes to tailor legal requirements to meet the unique needs of an active scientific laboratory. This work is guided by two draft documents: the *INEEL Architectural Properties Management Plan* (INEEL 2002b) and the *INEEL Cultural Resource Management Plan* (INEEL 2002a). DOE is in the process of finalizing these two documents. All work is implemented through specific INEEL management control procedures linked closely to other INEEL environmental protection activities. A programmatic agreement among the DOE-ID, the Idaho State Historic Preservation Office, and the Advisory Council on Historic Preservation signifies approval of the *INEEL Architectural Properties Management Plan*.

The INEEL long-term stewardship program intends to rely on advice, policy, and guidance from the Office of Legacy Management to identify any new nationally mandated requirements for long-term stewardship. Some of these new requirements will be identified through the long-term stewardship web site maintained by DOE-HQ (<http://lts.apps.em.doe.gov/>)

The objective of DOE Order 450.1 is to “implement sound stewardship practices that are protective of the air, water, land and other natural and cultural resources impacted by DOE operations” and “must be accomplished by implementing environmental management systems at DOE sites.” The INEEL has an active environmental management system (EMS) in place currently founded in the International Organization for Standardization Environmental Management System Standard (ISO 14001). The EMS program is designed to integrate environmental protection, environmental compliance, pollution prevention, and continual improvement in the work planning and execution throughout all work areas of the INEEL as a function of the integrated safety management system (ISMS).

Future Implementation Opportunities

To ensure that the INEEL meets all stewardship requirements, the INEEL long-term stewardship program will develop a requirements matrix that identifies all INEEL-specific long-term stewardship regulatory requirements. The matrix will be updated as necessary and included in updates to this implementation plan. The program will use the matrix to do the following:

- Identify all long-term stewardship requirements in DOE orders and policies and federal and state regulations, and compare them to INEEL procedures, policies, and programs to ensure incorporation and compliance
- Consult with INEEL programs and operations and help them comply with existing or new long-term stewardship requirements

- Help organizations incorporate long-term stewardship requirements into new policies and procedures
- Ensure that long-term stewardship requirements are incorporated into annual operations planning.

Performance Measure

The INEEL has an identified system, procedure, or other mechanism for implementing all long-term stewardship requirements (national and INEEL-specific).

Benefits of the performance measure consist of the following:

- Better alignment of INEEL programs with long-term stewardship requirements
- Reduced possibility of noncompliance
- Better planning
- Opportunities for better integration and more efficient (less costly) implementation of requirements
- Reduction of duplicate work.

5.1.2 Strategic Objective 1.2

Develop a comprehensive approach to identify and manage the contamination left in place after remediation of the INEEL.

Status

Management of INEEL sites with residual contamination after remediation will comply with CERCLA, RCRA, and HWMA requirements. The contaminated sites are identified and managed according to EPA guidance for institutional control areas. This guidance applies to any site with risks or hazards that make the location unsuitable for unrestricted use. Approximately 130 institutional control CERCLA sites are currently defined at the INEEL.

CERCLA regulations mandate the creation and maintenance of an Administrative Record (AR) where records of all CERCLA decisions are housed. Section 113(k) of CERCLA drives DOE to establish an AR and index. Information regarding contamination that has been left in place can be found in the AR and will be accessible for long-term management of CERCLA sites.

The INEEL relies on the Comprehensive Facility and Land Use Plan (CFLUP) to catalog long-term land use policies and to summarize information about each CERCLA site, such as location, description, hazards or contaminants of concern, ROD selected remedy, use restrictions, objectives of controls, institutional controls, and comments. The sites and facilities being remediated under RCRA are not currently recorded in the CFLUP. RCRA postclosure information is maintained by the Environmental Affairs Records Center. If contamination remains following completion of a RCRA closure activity, then new CERCLA sites may be established for the purpose of providing institutional controls, including long-term management.

The CFLUP uses an existing web-based system that has been accepted by stakeholders, the public, Native Americans, the EPA, and the Idaho Department of Environmental Quality (IDEQ). The CFLUP is

a good reference for public information, but it is not a legal repository of land use data. The uncontrolled version of the CERCLA module of the CFLUP is on the Internet at cflup.inel.gov. A controlled version of the CERCLA module will be available for official use only. This version, which will include maps and site coordinates for the CERCLA institutional control areas at the INEEL, is being developed in cooperation with the Graphic Information System (GIS), the INEEL graphic mapping system.

Future Implementation Opportunities

The INEEL anticipates the need for a system capable of integrating information about all areas of postremediation residual contamination with information about land use and infrastructure. Such a system would allow the long-term stewardship program to respond quickly to internal and external inquiries about residual contamination and land use.

The CFLUP system will be revised as necessary to include RCRA and new CERCLA sites. Periodically, sites where risk levels have decreased sufficiently, generally through natural radioactive decay, will be removed from the list of sites requiring institutional controls. While recent security requirements necessitated removing figures and coordinates from the publicly accessible version of the CFLUP, the version inside the INEEL firewall still has the coordinates and other sensitive information. By maintaining the CFLUP system and making it more available to site users, DOE's ability to manage areas with residual contamination improves continuously without adding expensive duplicate programs.

Performance Measure

An Internet-based system at the INEEL that provides DOE, INEEL employees, regulators, and (within appropriate security restrictions) the public a single point of access to multiple sources of graphical and narrative information about the location, nature, and control of residual contamination at the INEEL.

Benefits of the performance measure consist of the following:

- Faster, easier access to long-term stewardship information
- More comprehensive access to focused data for researchers and project managers
- More information sharing
- Better project decision support
- Reduced Freedom of Information Act (FOIA) requests for long-term stewardship information
- Better community and stakeholder relations as trust improves with increased access to information.

5.1.3 Strategic Objective 1.3

Develop an integrated approach to identify and manage the ecological and cultural resources occurring on the INEEL.

Status

Ecological Resource Management. The limited use of most INEEL land has created what is considered an ecological treasure and is possibly the largest intact expanse of sagebrush-steppe habitat in

the United States. Approximately 100 bird, 70 mammal, and 23 amphibian and reptile species can be found in sagebrush habitats (Braun et al. 1976). Some of these are sagebrush obligates (restricted to sagebrush habitats during the breeding season or year-round) or near-obligates (occurring in both sagebrush and grassland habitats). Sagebrush obligates on the INEEL include the sage sparrow, Brewer's sparrow, sage grouse, pygmy rabbit, sagebrush vole, sagebrush lizard, and pronghorn (INEEL 2003).

The Endangered Species Act (ESA) requires all federal agencies to use their authorities to conduct conservation programs and to consult with U.S. Fish and Wildlife Service concerning the potential effects of their actions on any species listed under the ESA. The INEEL consults with federal agencies under the ESA to avoid, minimize, or mitigate the impacts of their activities on listed species. Currently, the INEEL has no resident threatened or endangered species; however, one species of particular concern is the sage grouse.

Idaho's sage grouse populations are declining in the state (IDFG 1998). The reduction of sagebrush-steppe habitat, both in amount and quality, is thought to be responsible for declines in sage grouse in Idaho (Idaho Sage Grouse Task Force 1997). Several efforts to list both the western and eastern subspecies as endangered are in different stages of evaluation. Most recently, on March 19, 2003, a combination of previous petitions for the western and eastern subspecies of the greater sage grouse (*Centrocercus urophasianus*) was submitted to list the species as endangered. As of April 16, 2003, no legal action had occurred and the U.S. Fish and Wildlife Service has made no determination (Kritz 2003). Any species listed as endangered on the INEEL will significantly impact how the site is managed, how new projects and programs may be implemented, and mitigation measures that must be taken before new facilities are sited.

Federal or other requirements stipulate environmental monitoring. The operable unit (OU) 10-04 ROD states, "monitoring will ensure that expectations regarding the protectiveness of the no action approach to the INEEL-wide ecological risk assessment are met" (DOE-ID 2002). Based on the multiple uncertainties, data gaps, and assumptions in the sitewide ecological risk assessment, it was determined that the INEEL would implement long-term monitoring of its ecological resources. Project personnel are developing a comprehensive ecological surveillance and monitoring plan according to the OU 10-04 ROD. This plan will provide an integrated approach to monitoring ecological resources to ensure protection from residual contamination or to support corrective actions on engineered barriers.

Three groups with different but complementary goals monitor and survey the INEEL ecology. Program management for all three groups is consistent with the requirements of DOE Order 450.1.

- The sitewide environmental monitoring program— The sitewide environmental monitoring program is managed by the primary management and operating contractor for DOE-ID at the INEEL. This program monitors environmental media and facility effluents to assess the effects of INEEL operations on the environment, to protect public health, and to demonstrate compliance with federal, state, and local regulations. This program is divided into three major areas: program management, compliance monitoring, and environmental surveillance. Environmental surveillance samples air, water, soil, and limited biota for radiation and monitors ambient radiation onsite and at selected offsite locations.
- The environmental surveillance, education, and research (ESER) program —The ESER program is managed by a subcontractor to DOE-ID. The ESER program objectives are to verify compliance with applicable environmental laws and regulations and with commitments made in official DOE documents, to characterize and define trends in the physical, chemical, and biological condition of environmental media in the INEEL vicinity, and assess the potential radiation dose to members

of the public from INEEL effluents. The ESER program conducts ecological surveys, studies, and research, and provides environmental education at the INEEL

- The long-term surveillance, monitoring, and operations project—The long-term surveillance, monitoring, and operations project is also managed by the primary management and operating contractor for DOE-ID at the INEEL. This project is responsible for developing the comprehensive long-term ecological monitoring and surveillance plan required by the OU 10-04 ROD, as mentioned above.

In 1999, approximately 73,263 acres (29,650 hectares) of the INEEL was designated a Sagebrush-Steppe Ecosystem Reserve. The INEEL has also been designated a National Environmental Research Park and a National Important Bird Area. These designations support continued protection of the ecological resources at the INEEL and research associated with those resources. A draft management plan for the INEEL Sagebrush-Steppe Ecosystem Reserve is being developed by the Bureau of Land Management (BLM) and DOE, with input from the Idaho Department of Fish and Game, U.S. Fish and Wildlife Service, and the Shoshone-Bannock Tribes. The draft management plan discusses wildfire and wildfire suppression, livestock grazing, road management, and protection of cultural and tribal resources.

Different groups are involved in managing weeds, wildland fires, and the Sagebrush-Steppe Ecosystem Reserve. The Wildland Fire Management Guide (GDE-7063) provides general fire management information and recommended practices to those organizations directly involved in preparing for, preventing, responding to, and recovering from wildland fires on the INEEL. The guide states that one of its limitations is the lack of an INEEL land management plan similar to those of other federal agencies that manage large areas of federal lands. The wildlands fire environmental assessment (EA) has been finalized to identify potential environmental impacts and rehabilitation actions related to wildland fires (DOE 2003). This document directed the development of a fire management committee to establish prefire and postfire activities.

Cultural and Historical Resource Management. Specific DOE policies and orders reinforce a commitment that DOE-ID and all other DOE field offices will comply with identifying, evaluating, keeping permanent records, and protecting the vast inventory of cultural resources on the INEEL site as well as any in DOE-ID project areas outside the INEEL boundaries. The INEEL has a fully integrated approach to identifying and managing the cultural resources of the INEEL. The INEEL Cultural Resource Management Office has a continuing program that inventories and assesses cultural resources and involves stakeholders. The approach includes a commitment to a review process that helps identify and assess resources to be protected during DOE-ID-sponsored activities.

Over the past four decades, the INEEL has surveyed approximately seven percent of the undeveloped portion of the 2,305 square-kilometer (890 square-mile) facility, consulted local tribal people whose aboriginal homelands included the INEEL, and assessed buildings under DOE-ID jurisdiction for historical significance. Archaeological sites reflecting thousands of years of use by hunting and gathering cultures number nearly 2,000 and may tally into the tens of thousands across the entire INEEL landscape; many are of great importance to the Shoshone-Bannock Tribes. A smaller number of the archaeological inventory includes sites such as homesteads, old canals, canal construction camps, emigrant trails, stage stops, and railroad sidings from the late 19th and early 20th centuries. Of the more than 500 DOE-ID buildings surveyed, 215 are historical. One of these facilities, the Experimental Breeder Reactor I, is a registered National Historic Landmark. Required surveys, inventories, and assessments of other structures, equipment, and records are ongoing and are expected to reveal other properties with historical significance.

The INEEL Cultural Resource Management Office has developed processes to tailor legal requirements to meet the unique needs of an active scientific laboratory. This work is guided by the *INEEL Architectural Properties Management Plan* (INEEL 2002b) and the *INEEL Cultural Resource Management Plan* (INEEL 2002a). These two documents await final approval. A programmatic agreement among DOE-ID, the Idaho State Historic Preservation Office, and the Advisory Council on Historic Preservation is also awaiting final approval. A similar agreement for the *INEEL Cultural Resource Management Plan* is being developed and may replace the programmatic agreement for the *INEEL Architectural Properties Management Plan*.

The INEEL holds annual meetings that include cultural research staff, the DOE-ID Cultural Resource Coordinator, the Idaho State Historic Preservation Officer, Shoshone-Bannock tribal members, and other INEEL stakeholders to identify tasks related to compliance with historic preservation and cultural resources. A series of agreements, beginning in 1992 and updated as recently as 2002, formalize DOE-ID's long-term relationship with the Shoshone-Bannock Tribes and promote increased interaction, understanding, and cooperation on issues of mutual concern such as protecting the environment and cultural resources. The cultural resource working group (CRWG) was established in 1992 to help implement the cultural resource section of the Agreement in Principle between DOE-ID and the Shoshone-Bannock Tribes. The CRWG includes representatives from DOE-ID, the Shoshone-Bannock Tribes, and the INEEL Cultural Resource Management Office. The group strives to reduce potential conflicts related to INEEL cultural resources.

Future Implementation Opportunities

The long-term stewardship program will help the Cultural Resource Management Office develop a cultural resource surveillance and monitoring plan to enhance its ability to manage these resources. An opportunity exists to integrate the Cultural Resource Management Office program information into the long-term stewardship program and help develop data management requirements.

Cultural Resource Management Office records should be added to the corporate records management system. Appropriate security will need to be determined for any sensitive information

The long-term stewardship program will support the development of an ecological conservation management plan that integrates the ecological work at the INEEL. Similar to the cultural resource management plan, this plan should be implemented through specific INEEL management control procedures linked closely to other INEEL environmental management activities. Such a conservation management plan should focus on protecting the INEEL from invasive plant species infestations, and could include identification of biological resources and invasive plant species of concern as well as habitat and landscape features. The regulatory status, habitat condition, species occurrence, and administrative designations could then be used to classify land areas for management of the resources. Different management actions (such as monitoring or mitigation) could be associated with each area. The plan would help ensure compliance with the requirements in the INEEL Wildland Fire Management Environmental Assessment (INEEL 2003a). Such a plan could also be a roadmap of management and monitoring responsibilities among the INEEL ecological resource monitoring groups and could lead to improved coordination and interaction.

Ecological resource management staff should hold annual meetings that include INEEL and DOE-ID personnel, the state of Idaho, Idaho Fish and Game, U.S. Fish and Wildlife Service, United States Geological Survey (USGS), BLM, Shoshone-Bannock tribal members, and other INEEL stakeholders to identify tasks related to compliance with ecological resource requirements. Through data sharing, coordinated planning, and integrated reviews, the long-term stewardship program will integrate

ecological and resource monitoring and management activities with INEEL weed control and fire control activities.

Currently, several databases managed by various programs and contractors contain ecological resource information. Coordinating the various ecological resource databases into a single integrated source of INEEL ecological and natural resource data would be useful, and would help to make resource management decisions easier through more and better information sharing.

The stewardship program will be an advocate for continued attention to and compliance with laws and agreements about these resources. The stewardship program will compile and share lessons learned and develop an integrated long-term approach for managing and protecting these resources.

Performance Measures

- Information about INEEL cultural and ecological resources is available, within appropriate security constraints, to DOE, INEEL employees, researchers, regulators, Shoshone-Bannock Tribes, and the public via a single Internet-based access point.
- Adverse impacts to cultural resources on the INEEL are minimized; within 30 days, activities to mitigate any adverse impacts will be implemented.
- Adverse impacts to ecological resources on the INEEL are minimized; within 30 days, actions to mitigate any adverse impacts will begin, with the intention of restoring the native sagebrush-steppe ecosystem to conditions determined by qualified resource management experts.

Benefits of the performance measures consist of the following:

- Retain the natural sagebrush-steppe baseline condition on the INEEL
- More and faster access to a wider range of ecological and cultural resource information available to researchers and staff
- Better project planning supported by better resource impact assessments
- Fewer incidents of illegal taking of resources (particularly cultural artifacts)
- Greater awareness among staff, stakeholders, and public about extent, condition, and protection of resources
- More efficient assignment of research budget
- Better understanding and prioritization of resource management and mitigation needs
- Better national resource management support through improved information management and sharing.

5.2 Goal 2: Maintain Acceptable Levels of Risk Established by Remedies

5.2.1 Strategic Objective 2.1

Maintain remedies as required in plans and agreements to ensure continued protectiveness of these remedies.

Status

Four types of documents describe how INEEL maintains remedies: institutional controls plans, operations and maintenance plans, groundwater monitoring plans, and the CERCLA five-year remedy review of remedial actions. The EPA Region 10 policy on institutional controls at federal facilities (EPA 1999) establishes the measures that ensure the effectiveness of institutional controls according to CERCLA or corrective action according to RCRA.

Institutional controls plans. INEEL's institutional controls plans describe the inspection methods, implementation requirements, and reporting on all aspects of the control, and give an overview of work control procedures. Institutional controls plans are updated if requirements change, if institutional controls change or are terminated, or if institutional controlled property should ever be transferred or leased to another government agency. The INEEL is currently preparing a sitewide institutional controls plan. This plan will integrate all previous plans required by individual RODs and consolidate the inspection and reporting requirements and functions into a single program.

Operations and maintenance plans. Operations and maintenance (O&M) plans describe the annual operations and maintenance activities required by individual RODs at each OU at the INEEL. The operations and maintenance activities begin when the remedy is operational and functional (EPA 1986). O&M plans describe activities such as normal operations, potential operating problems, routine monitoring and laboratory testing, and safety plan precautions. After remedial actions are complete, the plans are used for maintaining the remedy, for repair, for environmental monitoring, site-specific operations requirements, and five-year remedy reviews. The plans also describe organizational responsibilities and specific reporting requirements. Ongoing remedial activities such as pumping and treating groundwater, vapor vacuum extraction and treatment, and completed activities such as engineered barriers undergo a predictable cycle of operations and maintenance.

Groundwater monitoring plans. Most remedies require (or are coupled with) groundwater monitoring. Monitoring groundwater provides an indication of the effects of a remedial action on groundwater quality. In some instances, contaminant source reduction (e.g., removal of injection well sludge) and continued monitoring of water quality constitute the remedial action. Personnel monitor groundwater to comply with specific remedial action objectives and regulatory requirements from RODs, RCRA postclosure permits and regulations, CERCLA regulations, wastewater land application permits, and the Safe Drinking Water Act. Each remedy, facility, or area may have its own plan for monitoring groundwater. Groundwater monitoring plans include the following:

- Objectives of sampling and analysis
- Types of sampling and analysis
- Location and frequency of samples

- Equipment and collection procedures for samples
- Process for sample designation through the monitoring duration
- Health and safety requirements, waste management procedures, and quality assurance requirements
- Project reporting activities

DOE Order 450.1 specifically states that “implementation of a sitewide approach for groundwater protection” is to be considered [4.b. (1)(c)]. The order also requires “early identification of, and appropriate response to, potential adverse environmental impacts associated with DOE operations” as one of the elements of integrating an environmental management system [4.b. (4)]. Both of these are passed on to the contractor in Attachment 2 of the order, along with other general verbiage about environmental monitoring that can be found in [5.d.(14) and (15)].

A single groundwater monitoring program at the INEEL issued the *Idaho National Engineering and Environmental Laboratory Groundwater Monitoring Plan Update* (DOE/ID-11034, September 2002), which describes the programs and plans for each INEEL facility area that satisfy specific goals for monitoring groundwater as defined in existing decision documents. The plan also establishes a surveillance and monitoring program that defines monitoring well networks, constituent lists, and sampling frequencies necessary to track and quantify the effects on groundwater quantity and quality for each INEEL facility or area. This plan is being revised to reflect the newly issued DOE Order 450.1.

The water integration project was established in January 2002 to better coordinate site operations, scientific research, and subsurface monitoring functions at the INEEL. The primary goals of the project:

- Enhance scientific understanding of surface water, groundwater, and contaminant movement at the INEEL
- Strengthen and better coordinate groundwater and vadose zone monitoring systems
- Identify and fill gaps in understanding of contaminant and water movement.

Additional goals of the project are described on the projects website:
<http://www.inel.gov/environment/water/>

CERCLA five-year remedy reviews. Both CERCLA and the NCP require DOE, as the lead agency, to review at an interval of no more than five years any remedial action that results in leaving hazardous substances, pollutants, or contaminants at a site. The purpose of the five-year review is to evaluate each selected remedy to ensure that it is protecting human health and the environment. The CERCLA/NCP review includes evaluating, with a view toward remedial action objectives and goals, routine reports of operation and maintenance, assessments of institutional controls, and related data from environmental surveillance and monitoring. These reviews continue until the risk levels of residual contaminants at a site have been reduced enough to allow unlimited use.

Future Implementation Opportunities

The institutional controls plans, operations and maintenance plans, groundwater monitoring programs, and the CERCLA five-year remedy reviews adequately ensure that CERCLA remedies are protecting human health and the environment. These activities are currently included in the finding

projections of the Idaho Completion Project. INEEL expects that decontamination and decommissioning of facilities or later RCRA postclosure actions will create more stewardship areas. Funding for any additional stewardship activities will need to be added when they are identified.

Because institutional controls, operations and maintenance, monitoring groundwater, and CERCLA five-year remedy reviews all started before the creation of the INEEL long-term stewardship program, long-term stewardship personnel will work closely with Idaho Completion Project programs in monitoring the effectiveness of cleanup remedies.

The long-term stewardship program is integrating functions that will ensure continued protectiveness of remedies, such as an integrated institutional controls process. Specific tasks that support this effort are listed below:

- Develop a single comprehensive five-year remedy review process
- Comprehensively assess INEEL and complexwide institutional controls and engineered controls to identify the most common failure modes, then make recommendations for improving (reducing failures) both on and off the INEEL
- Systematically review INEEL annual institutional controls reviews to identify opportunities to improve the review process itself
- Systematically identify and manage deficiencies in institutional controls and engineered controls maintenance via the corporate issues management systems.

Performance Measures

- No unanticipated failures of institutional controls or engineered controls (remedies remain protective)
- Reduced cost of maintaining institutional controls and engineered controls.

Benefits of the performance measures consist of the following:

- Better understand the vulnerabilities of institutional and engineered controls and the economic impacts
- Improve ability to invest maintenance budget more effectively
- Improve preventive maintenance that extends life of institutional and engineered controls
- Identify early corrective action to prevent significant maintenance expense
- Avoid selecting failure-prone institutional or engineered controls in future remedy decisions
- Reduce cost of control maintenance.

5.2.2 Strategic Objective 2.2

Develop or revise procedures for implementing emergency response to failures of remedies or long-term stewardship institutional controls.

Status

Long-term stewardship is part of INEEL's overall emergency response planning. Procedures address emergency response to failures of remedies or stewardship institutional controls.

PLN-114 (*INEEL Emergency Plan / RCRA Contingency Plan*) is the current emergency response plan for the INEEL. The plan also functions as the contingency plan mandated by RCRA. The plan describes the overall process for responding to and mitigating operational emergencies at the INEEL. PLN-114 is updated annually (or more frequently if any changes are made to RCRA or if actions described in the plan fail to deal with an emergency). Operations emergencies are significant accidents, incidents, events, and natural phenomena that have seriously degraded, or have the potential to seriously degrade, the safety or security of DOE facilities. These emergencies include safeguards and security events, facility fires, explosions, hazardous material incidents, transportation accidents involving hazardous materials, and natural phenomena such as range fires, flooding, tornadoes, or earthquakes.

Specific procedures for operations emergencies are in the facility-specific or area-specific procedures for emergencies. To ensure that emergency responders are aware of the hazards specific to their facility, each facility has an emergency action manager or an emergency coordinator who is responsible for that facility and who is the most knowledgeable about the hazards in the area. Advisors provide further information to the emergency action manager or emergency coordinator about the health and safety hazards for each remediated area. These hazards are also documented within the health and safety plans required for each remedial area. The emergency coordinator or emergency action manager is responsible for assessing postevent and postemergency conditions and developing a plan for returning to normal conditions.

It is unlikely that failure of a remedy or of institutional controls would cause a response by site emergency personnel under PLN-114. However, a remedy could fail as a result of a significant operations emergency, such as a fire destroying the pump-and-treat equipment functioning as the remedy for cleaning the aquifer. Emergency personnel would respond under PLN-114 to mitigate the immediate danger and put out the fire. With the area once again in a stable condition, the emergency coordinator or emergency action manager would turn the situation over to those responsible for the recovery phase. Long-term stewardship personnel would work with regulators to assess the event and conditions, then develop a plan to repair or replace the equipment and reestablish a working remedy.

Institutional controls plans define the controls for each waste site where contamination remains after cleanup. Each plan describes the potential failures of each institutional control and prescribes corrective action for the failure. When institutional controls fail, these plans require that DOE notify the EPA and Idaho Department of Health and Welfare-Department of Environmental Quality (IDHW-DEQ) within 48 hours. Failure of institutional controls can include breaching the integrity of an engineered barrier, access to a release site by an unauthorized person, or residential activity in a site controlled for industrial use. DOE, EPA, and the IDHW-DEQ work together to develop corrective actions. If DOE believes the activity is an emergency, it can respond immediately following notification of EPA and IDHW-DEQ without waiting to develop a plan of action. After a failure, DOE identifies the root cause, evaluates how to correct the process to avoid future problems, and implements the action after consultation with EPA and IDHW-DEQ.

Future Implementation Opportunities

Long-term stewardship is part of INEEL's overall planning for emergency response and does not require revision at this time. By procedure or according to agreements with the EPA, DOE, and the IDHW-DEQ, the long-term stewardship program will be involved in emergency response to failures of

remedies or institutional controls. Long-term stewardship personnel will either be part of a recovery team or an Idaho Completion Project specific team that assesses the failures of remedies or institutional controls and implements corrective actions, such as procedure revisions, to avoid future problems.

Performance Measure

Emergency response and recovery procedures include long-term stewardship considerations.

Benefits of the performance measure consist of the following:

- Reduced impact (damage requiring repair) to institutional and engineered controls from emergency responses and recovery activities
- Improved responder safety
- Reduced maintenance or repair costs for institutional controls and engineered control sites that might result from emergency response activities.

5.3 Goal 3: Sustain Knowledge of Residual Contamination in a Manner That Retains the Relevance, Accessibility, and Integrity of the Information for Stewards, Decision-Makers, and Affected Parties

5.3.1 Strategic Objective 3.1

Develop a comprehensive system to identify and manage the data and information essential for the implementation of long-term stewardship.

Status

The *INEEL Long-Term Stewardship Information Management Plan* (INEEL 2003b) is the source for details about the approach to identifying and managing the information essential for long-term stewardship. The purpose of the plan is to (1) ensure that information is available about residual contamination onsite, and remedies and their implementation, (2) ensure that information is available about INEEL cultural and ecological resources and their management and protection, and (3) prescribe an overall approach to implement a long-term stewardship information system within existing company programs and information management systems. For example, the INEEL records management program will continue to be the overarching program that guides the identification, interpretation, and implementation of information management requirements for stewardship information. The plan emphasizes that the electronic document management system will be the primary tool for imaging specific collections of records and for indexing all INEEL records, including stewardship records. Additionally, the plan describes how DOE, regulators, long-term stewardship personnel, and community members can access the information. The information management plan includes the following:

- Long-term stewardship information (for example, site name, site boundaries, custodian, land use plans) and specifies the subset “critical” information (for example, existing hazards, emergency plans, monitoring data)
- Management procedures for critical and noncritical long-term stewardship information

- Summarized results of benchmarking studies that evaluated long-term stewardship information needs and storage and access systems at DOE, Department of Defense (DOD) and EPA
- Procedures for archiving and retrieving long-term stewardship information
- Descriptions of INEEL record tracking systems and information centers
- Data migration strategies to ensure future access to stewardship information per PLN-883 (*Records Management Plan-Electronic Document Management System [EDMS]*), which describes media and file format migration responsibilities. The information management plan will include a description of current revisions to PLN-883. These revisions will require a procedure for each migration that describe how migration will occur and will describe approval and acceptance criteria specific to that migration.
- Methods for collecting, retrieving, storing, and accessing information.

One of the most important tasks in managing information is to identify the types of information necessary for long-term stewardship. To accomplish this task, long-term stewardship personnel did the following:

- Benchmarked activities (studied those that have been singled out as good examples) at the DOD, EPA, and other DOE sites.
- Reviewed the list of information types they expected to need access to during long-term stewardship and identified the function or activity that would need this information. The resulting list was designated as long-term stewardship information.
- Designated a subset of long-term stewardship information as “critical” information, i.e., the minimum set of information needed for “real time” access for long-term stewardship activities. The resulting tentative list for stewardship at INEEL includes the following:
 - Remedial site information such as site name, location, real estate and land use records, legal information, operational process history, and completion/closure reports
 - Records information such as key correspondence and quality assurance records, including location and methods for retrieval
 - Remedial hazards, including hazard identification and specific location
 - Regulatory framework such as permits and agreements
 - Institutional controls plans, health and safety plans, groundwater monitoring plans, community involvement plans, emergency operations plans, and operations and maintenance plans
 - Monitoring results, environmental and site conditions, and other information such as radiological surveys and inventories of cultural and natural resources.

Management control procedure (MCP)-557, *Managing Records*, directs the care and handling of all records, including long-term stewardship records, generated at the INEEL. LST-9, *INEEL Records Schedule Matrix*, defines the retention schedules for each type of information. However, it will be

necessary to modify the records schedule to account for stewardship records and existing INEEL archival information (for example, photographs and engineering drawings) to identify the record types and their long-term stewardship applicability. Trained records professionals will manage project and program records according to a published records plan, using TEM-103, "Records Management Plan Template," as the guidance for preparing the records management plan.

Future Implementation Opportunities

INEEL intends to rely on the current system for records management to store and retrieve combinations of historical and current data. The current systems will be modified to add a field to identify information that has been determined to be needed for long-term stewardship. Current systems are being evaluated to determine their suitability for long-term stewardship information. Based on that evaluation, current systems will be modified or integrated to provide a comprehensive method for collecting, storing, and retrieving long-term stewardship information.

The information management plan establishes a schedule for reviews of the current information systems every three to five years and to compare the systems to state-of-the-art technology to recognize when data sets become vulnerable to outdated technology. Long-term stewardship personnel and those responsible for managing the system hardware and software and users of the system will do the review and will consider comments and suggestions solicited from stakeholders and the Shoshone-Bannock Tribes. Records will be reviewed in accordance with the long-term stewardship records management plan.

Data collected and stored by a variety of databases across the INEEL may be needed by the long-term stewardship program. For example, data from samples taken during monitoring and site cleanup will be needed as a baseline for the long-term stewardship program and are of great potential interest to stakeholders. The long-term stewardship information management system will interface with a variety of databases to access additional information for long-term stewardship. The information system will not control either the data acquisition processes or sources of information. Rather, it can be viewed as a two-way information portal controlled by organizational and work control procedures through which long-term stewardship information will pass.

The *INEEL Long-Term Stewardship Information Management Plan* (INEEL 2003b) identifies specific activities that will be reviewed and prioritized for inclusion in the work planning process. Proposed tasks include the following:

- Preparing detailed requirements for function and operation of a long-term stewardship information management system
- Comparing current INEEL systems with requirements for function and operation
- Preparing a conceptual design document for the long-term stewardship information management system.

Performance Measures

- All INEEL long-term stewardship information is consistently available to DOE, INEEL staff, regulators, and the public, within appropriate security constraints, through a single, Internet-based searchable point of access.
- All critical long-term stewardship information is immediately available when needed.

- No INEEL long-term stewardship information is lost, becomes inaccessible, or is destroyed sooner than the record retention schedule indicates.

Benefits of the performance measures consist of the following:

- Better long-term stewardship performance through improved availability of information
- Improved regulator and stakeholder confidence in DOE through readier access to information and rigorous stewardship of information
- Better project planning through improved availability of information
- More efficient implementation that decreases costs of managing information
- Improved ability to respond to changes in long-term stewardship operations or requirements
- Improved analysis of long-term stewardship operations and management;
- Reduced FOIA costs

5.3.2 Strategic Objective 3.2

Develop an approach to provide access to long-term stewardship information for stakeholders and the Shoshone-Bannock Tribes.

Status

The INEEL currently makes stewardship information available in several formats that include the following:

- Briefings and discussions with stakeholders and the Shoshone-Bannock Tribes
- An 800 phone line (1-800-708-2680) that allows members of the public or Shoshone-Bannock Tribes to ask questions and request documentation
- Mailing lists of those who have expressed interest in long-term stewardship to enable sending fact sheets and meeting announcements
- An external INEEL World Wide Web site available at <http://www.inel.gov>. The site provides information and documents for all aspects of the INEEL, including the administrative record (containing all data related to environmental restoration)
- Formal communication with the Shoshone-Bannock Tribes in accordance with the Agreement in Principle (DOE 2002b)
- Stewardship information as required by the FOIA

Future Implementation Opportunities

The INEEL long-term stewardship program will continue to use all avenues to make stewardship information available for its stakeholders and the Shoshone-Bannock Tribes. The final system for

managing stewardship information will interface with present information systems. Where practicable, present systems and infrastructures will be used instead of new systems. One of the early activities for information management planning is working with stakeholders and the Shoshone-Bannock Tribes to identify their preferred methods for accessing stewardship information and to accommodate those preferences where feasible. In some cases, these preferences can dictate the approach to and design of information management systems.

In addition to preference, the response time required to provide stewardship information also may dictate the type of access. For example, information required for emergency response must be available immediately, while other information may be needed within several days or weeks. Long-term stewardship personnel will consult INEEL management, stakeholders, and the Shoshone-Bannock Tribes to define the timing requirements for access to stewardship information based on available funding and the specified needs of programs, individuals, or organizations.

Some information requirements are mandated by law (e.g., FOIA response time). The information management plan includes a list of requirements that may influence information delivery and response actions.

The INEEL will maintain and update the CERCLA module of the CFLUP to keep stakeholders and members of the Shoshone-Bannock Tribe informed of the status of long-term stewardship at the INEEL.

Performance Measure

All appropriate INEEL long-term stewardship information is quickly available to stakeholders and the Shoshone-Bannock Tribes at low or no cost to them, via a system that provides both Internet-based access and an alternative to an Internet-based request.

Benefits of the performance measure consist of the following:

- Long-term stewardship information readily available to stakeholders who don't have Internet access
- Improved relations with Shoshone-Bannock Tribes, stakeholders, and regulators
- Long-term stewardship critical information readily available
- Increased transparency of long-term stewardship management.

5.4 Goal 4: Support Stakeholder and Shoshone-Bannock Tribal Understanding of and Involvement in Long-Term Stewardship

5.4.1 Strategic Objective 4.1

Identify the appropriate levels of stakeholder and tribal involvement in INEEL long-term stewardship decisions and actions.

Status

To support the development of the INEEL long-term stewardship program, the INEEL wrote the *INEEL Long-Term Stewardship Public Involvement Plan* (INEEL 2001) describing a method to select the appropriate level of public involvement for long-term stewardship decisions. INEEL staff members

developed the plan using DOE Public Participation Guidance for Environmental Restoration and Waste Management (DOE 1993), as well as principles identified by the International Association for Public Participation, a leading source of knowledge and experience in public involvement.

The INEEL also restructured public involvement and communications under the newly formed Idaho Completion Project to ensure consistent solicitation of comments about cleanup from stakeholders, the Shoshone-Bannock Tribes, and the public.

Different levels of public involvement (e.g., informing, consulting, involving, or collaborating) may be appropriate for different long-term stewardship activities (INEEL 2001). Additionally, different stakeholders may need to become involved in different ways for any given long-term stewardship activity. For example, regulators become more involved than other stakeholders in reviewing monitoring data. The plan to involve the public also indicates that INEEL will work with stakeholders and the Shoshone-Bannock Tribes to determine their level of involvement in long-term stewardship planning, implementation, and evaluation. The plan outlines a six-step process to incorporate public input into the decision process by identifying the following:

- The level of public involvement appropriate to the issue; several factors—including available funding, seriousness of the issue, urgency for resolution, or existing regulations—can influence the appropriateness of a given level of public involvement on a particular issue
- The objectives of public involvement for each step of the planning and implementation process
- The members of the public with whom information must be exchanged
- The information exchange needed to complete each stage of the planning and implementation process
- Special circumstances surrounding the issues that could affect selection of public involvement techniques
- The appropriate techniques and their sequence to accomplish the required information exchange.

The *INEEL Long-Term Stewardship Public Involvement Plan* focuses on the individual program level, and all actions taken for long-term stewardship public involvement are coordinated with overall Idaho Completion Project plans for public involvement. The larger context of overall INEEL communications may affect the levels that the long-term stewardship program selects for public involvement. Therefore, all INEEL long-term stewardship public involvement activities will be coordinated under the Idaho Completion Project.

Future Implementation Opportunities

The primary opportunity in the years ahead will be to implement the approach described in the *INEEL Long-Term Stewardship Public Involvement Plan*, solicit comments from stakeholders and the Shoshone-Bannock Tribes about the process, and revise as necessary. In addition, INEEL will continue to formally communicate and consult with the Shoshone-Bannock Tribes in accordance with the Agreement in Principle (DOE 2002b).

Performance Measure

No negative responses from members of the public or Shoshone-Bannock Tribes about their level of involvement with the INEEL long-term stewardship program.

Benefits of the performance measure consist of the following:

- Greater public customer satisfaction with program operation
- Project management improved through more efficient involvement of stakeholders.

5.4.2 Strategic Objective 4.2

Maintain close relationships and communication with programs, agencies, stakeholders, and members of the Shoshone-Bannock Tribes to ensure that DOE consistently understands and considers all long-term stewardship issues and concerns.

Status

The *INEEL Community Relations Plan* (Draft 2003) outlines programs and tools that DOE uses to inform and involve the public in the process of making decisions about cleanup. The objectives of the community relations plan are to (1) identify the concerns of the public, stakeholders, and the Shoshone-Bannock Tribes, (2) address differing points of view on health and environmental issues, credibility, written materials, and involvement activities, and (3) explain how citizens can become involved in key decisions during the cleanup process. By asking the stakeholders and the Shoshone-Bannock Tribes for comments through facilitated discussions and open meetings, the long-term stewardship program can stay aware of these groups' evolving interests and values about stewardship.

The INEEL also communicates formally with the Shoshone-Bannock Tribes in accordance with the Agreement in Principle (DOE 2002b). This communication allows the long-term stewardship program to understand tribal concerns and communicate any changes in the program.

The *INEEL Long-Term Stewardship Public Involvement Plan* (INEEL 2001) describes appropriate levels of involvement in long-term stewardship decision-making for stakeholders and the Shoshone-Bannock Tribes. These methods allow the INEEL long-term stewardship program to inform stakeholders and the Shoshone-Bannock Tribes of changes in the program and allow the program to understand and reflect the concerns of stakeholders and the Shoshone-Bannock Tribes as it makes stewardship decisions.

Future Implementation Opportunities

INEEL stewardship personnel identified several activities to achieve this strategic objective:

- Maintaining the stewardship mailing list
- Providing stewardship updates and announcements through the Internet, mailings, and public meetings
- Coordinating stewardship communication with the EM Office of Communication

- Meeting annually with stakeholders and the Shoshone-Bannock Tribes to report performance of stewardship compared against the strategic objectives and obtain input about ideas for improvement
- Summarizing achievements and recommendations about this objective in the updates to this implementation plan
- Coordinating the long-term stewardship program methods of obtaining stakeholder involvement with methods that might be used by the new NE landlord during transition.

Performance Measure

Annual public meeting to discuss status of INEEL long-term stewardship program.

Benefits of the performance measure consist of the following:

- Public customers more satisfied with program
- Program decisions that reflect stakeholder concerns.

5.5 Goal 5: Incorporate Long-Term Stewardship into INEEL's Decision-Making Processes

5.5.1 Strategic Objective 5.1

Evaluate and revise, as necessary, existing INEEL policies and procedures to ensure consistent integration of long-term stewardship considerations in site decisions.

Status

The objective of DOE Order 450.1 is to “implement sound stewardship practices that are protective of the air, water, land and other natural and cultural resources impacted by DOE operations” and “must be accomplished by implementing environmental management systems at DOE sites.” The INEEL environmental management system (INEEL 2002d) is the primary mechanism for ensuring that all environmental considerations are incorporated into site decision-making. This system integrates requirements for environmental protection, environmental compliance, pollution prevention, and continual improvement into work planning and execution throughout all work areas. The PDD-10 12 document describes the following:

- The roles and responsibilities for identifying environmental requirements and developing procedures and instructions, guidance, policies, and other controls for their implementation
- The roles and responsibilities for implementing environmental requirements and protecting the environment during work at the INEEL
- The primary work planning processes used to identify work scope and activities, analyze environmental hazards, impacts, and compliance risks, and establish environmental controls
- How applicable environmental requirements are identified and applied to work processes through procedures and other instructions

- Programs and processes used to evaluate compliance, environmental protection, and environmental management system, and the mechanisms for providing feedback to ensure continual improvement
- Programs included in the environmental management system (training, communication, emergency preparedness, document control, records management, environmental monitoring, assessments and trending, corrective action, and management review).

The environmental management system is designed to successfully implement environmental policy and integrate environmental protection and compliance into the company culture. The environmental management system applies to all company organizations (including those responsible for stewardship activities) that implement environmental requirements or have activities, products, or services that could affect the air, water, land, natural resources, historic or cultural resources, vegetation, wildlife, or surrounding population.

The company plans its long-range activities and documents these in the *INEEL Institutional Plan FY 2000 -2006* (INEEL 2002c). This plan summarizes the objectives, strategies, and areas of emphasis that guide decision-making for all activities at INEEL. Long-term stewardship is addressed from a national perspective in this plan to identify and develop science and technology need statements that will be used to improve the reliability of stewardship systems. However, the plan does not address INEEL's responsibility for stewardship as an area of emphasis for the INEEL.

The INEEL policies describe the INEEL commitments to its customers, employees, and the public for environmental protection, safety, and health, and for scientific, professional, and personal conduct. They do not prescribe planning and decision-making. Similarly, the INEEL Standards of Performance is a top-level description of resources and commitments made by the INEEL to its customers, employees, and the environment. All prime operating contractor management procedures (more than 1,000), processes, and functions are collected in a set of 16 management systems. The systems that contribute to planning and decision-making and affect long-term stewardship the most are integrated planning and assessment, supply chain (acquisition management), programmatic work integration, environmental support, and facility (acquisition) management systems. Long-term stewardship is informally acknowledged in the procedures in varying degrees, but in most cases specific action is not prescribed.

Future Implementation Opportunities

Because stewardship surveillance, monitoring, and recordkeeping will continue for many years, and new projects may begin at the INEEL, program staff will include long-term stewardship activities and related land use restrictions in the contractor environmental management system documents, site institutional plan, and NE's planning documentation.

INEEL will systematically review all DOE-ID directives and contractor policies and procedures that require new or additional focus on long-term stewardship. INEEL program staff will document the results in a published list of recommendations for changes that consider the life cycle of the directives or procedures and will coordinate any change in them with the scheduled update of those documents. The document may also include recommendations for new directives as necessary.

INEEL long-term stewardship personnel should continue to participate in, provide information for, and remain cognizant of discussions about long-term stewardship between the states and federal agencies.

Performance Measure

All DOE and contractor policies governing work planning include the expectation that long-term stewardship impacts and activities will be considered in all INEEL project planning.

Benefits of the performance measure consist of the following:

- More consistent and thorough identification of long-term stewardship issues through annual project planning
- More thorough analysis of project life-cycle resource needs
- Improved ability to evaluate project alternatives with better information about the long-term impacts of long-term stewardship
- Long-term stewardship program better prepared to accept scope from projects nearing completion
- Better position to respond to new developments in long-term stewardship management direction.

5.5.2 Strategic Objective 5.2

Incorporate long-term stewardship considerations into budget and work planning guidance documents.

Status

All INEEL work, including long-term stewardship tasks, is defined in detailed work plans (work planning process). INEEL personnel complete detailed work plans for the upcoming fiscal year. The guidance for detailed work plans is in GDE-112, *Detailed WorkPlan Development Process Guidance*.

In FY 2003, DOE-HQ issued guidance to all DOE sites requiring future planning to include the projected costs for the life of a project, including stewardship activities. Before the INEEL long-term stewardship program was created, INEEL personnel had many long-term stewardship activities included in detailed work and future planning for specific projects, but with varying degrees of scope and cost development and schedule consistency. In some cases these activities are fairly well defined because the projects have identified stewardship activities as mandated through CERCLA regulations. In other cases for which stewardship activities or end states are not yet determined, the cost estimates for stewardship activities are uncertain and may duplicate activities in earlier work plans and future planning estimates.

Future Implementation Opportunities

Long-term stewardship personnel will work with the authors of the detailed work plan development guide annually to include long-term stewardship planning guidance. Revisions to the guide will allow work planners to identify long-term stewardship activities and include the costs of and schedules for these activities in their detailed work plans and future planning. This will help facilitate the transition of long-term stewardship activities from cleanup and closeout projects to the INEEL long-term stewardship program.

FY 2003 was the first year that DOE-HQ required sites to identify the costs of long-term stewardship as a separate budget element. Costs for long-term stewardship activities were previously included within CERCLA remedy project budgets. In the future, long-term stewardship costs will be

specifically identified in programs such as institutional controls and sitewide groundwater monitoring. Long-term stewardship personnel will begin reviewing detailed work plans to ensure that stewardship costs are included and to help work planners who are unfamiliar with stewardship activities.

Long-term stewardship program personnel will review the project life-cycle baselines, schedules, and costs during annual work planning to ensure accurate and consistent identification and smooth transition of long-term stewardship activities and costs from the projects to the long-term stewardship program.

Performance Measures

- Annual work planning guidance includes information on identifying long-term stewardship scope, budget, and schedule for transition from projects.
- Annual budget requests include sufficient funding for INEEL long-term stewardship operations and program management.

Benefits of the performance measures consist of the following:

- More consistent and thorough identification of long-term stewardship scope, schedule, and costs through annual project planning
- Better capture of long-term stewardship costs
- Long-term stewardship program better prepared to accept scope from projects nearing completion
- Continued optimization of long-term stewardship operations through identification of efficiencies
- Better position to respond to new developments in long-term stewardship management direction.

5.6 Goal 6: Sustain the Ability to Conduct Long-Term Stewardship Activities

5.6.1 Strategic Objective 6.1

Identify, acquire, and manage the economic, physical, and human resources necessary to conduct long-term stewardship of the INEEL.

Status

Annual detailed work planning is a well-defined process allowing INEEL personnel to identify the economic, physical, and human resources necessary for all work, including long-term stewardship tasks. Teams comprising DOE-ID, technical and budget staff, operating contractor project management, planning and controls engineers, Environment, Safety, Health, and Quality Assurance personnel, site personnel, and others develop the detailed work scope activities, schedules, and resource requirements to successfully meet commitments to customers and sponsors. The INEEL process has the following three phases:

In phase one, all team members from the prime operating contractor and DOE-ID reach consensus on the scoping statements and assumptions prepared by long-term stewardship personnel, based on the President's budget and the EM program integrated priority list.

In phase two, the long-term stewardship program prepares the schedule, activities, and resources necessary to do the work.

In phase three, functional organizations within the company—e.g., engineering support—review and comment on the schedule, activities, and resources—i.e., the detailed work plan—prepared by the stewardship staff. After comment incorporation, the detailed work plan is submitted to DOE-ID for final review and approval by mid- September so that work can begin in the new fiscal year.

Once funding is received for long-term stewardship work, long-term stewardship personnel are responsible for following company procedures to procure needed physical resources. Although the budget process defined above identifies funding for human resources, it does not normally list the specific skills required to do the work. The long-term stewardship manager is responsible for ensuring that personnel have the knowledge and skills for assigned tasks. This is a well-defined process that includes employee position descriptions and the type of tasks and required qualifications. Employees who accept the tasks also assume personal responsibility for ensuring they have the requisite skills and to notify their manager if they do not. As long-term stewardship staff is lost to retirement, transfer, and relocation, stewardship management will work with human resources to fill these vacated positions.

Long-term stewardship personnel are responsible for following company procedures as they manage the economic, physical, and human resources entrusted to them. These procedures include reporting scope, cost, and schedule according to the detailed work plan, ensuring the protection of physical investments, and providing continuing training and equipment to allow employees to do their work cost-effectively.

Future Implementation Opportunities

The processes that address this strategic objective are well defined in current company procedures. Given the likelihood of fluctuation in funding over the next several years, the long-term stewardship program should be prepared to identify the implications of funding changes and to recommend changes in direction to INEEL management to ensure that the program continues to identify, acquire, and manage the resources required for long-term stewardship at the INEEL. Through independent cost-benefit analysis, the long-term stewardship program will direct an effort to compare the costs of immediate cleanup with those of long-term monitoring and maintenance. Additional implementation activities include preparing detailed work plans and implementing the identified work.

Long-term stewardship activities that are candidates for future subcontracting could be identified. Uncertain funding and resource issues may drive outsourcing of long-term stewardship activities. Any subcontracts will be evaluated for cost versus benefit. Outsourcing limitations such as security, qualification, or other legal restrictions will need to be considered. The minimal training and qualifications needed for employees to conduct long-term stewardship activities, such as groundwater monitoring, need to be identified.

Performance Measure

All INEEL long-term stewardship operations and administrative tasks are always performed by appropriately qualified personnel, using the appropriate equipment and materials.

Benefits of the performance measure consist of the following:

- Avoiding rework or control failures because of unqualified personnel doing inadequate work or using inappropriate materials or equipment

- Making quality assurance part of long-term stewardship activities
- Assuring that regulators and stakeholders are confident about the results of long-term stewardship activities;
- Reducing preventive maintenance costs
- Improving worker safety

5.7 Goal 7: Reduce Uncertainty and Cost Related to Long-Term Stewardship Activities

5.7.1 Strategic Objective 7.1

Identify and implement lessons learned for continued improvement of long-term stewardship activities.

Status

The INEEL currently has a robust lessons learned system that, with some minor adjustments, will satisfy Objective 7.1 of the long-term stewardship strategic plan. The system incorporates all reports from both INEEL and the entire DOE complex that improve the safety, efficiency, and effectiveness of operations. The current database maintains lessons learned dating back five years, some of which apply to long-term stewardship.

The present system at INEEL captures many lessons learned related to long-term stewardship, but these are often embedded in other functional or topical areas such as groundwater monitoring, records management, or remediation. To find stewardship lessons now requires sorting by related functional area, then sorting stewardship lessons from the total list.

The system is available to any employee both for input of lessons learned or for extraction of information. The system allows INEEL personnel to avoid the pitfalls that may have been experienced by other programs in other areas. Users search the database by identifying functional codes or subject areas and the system exports lessons learned related to that topic.

Future Implementation Opportunities

Implementation opportunities for long-term stewardship lessons learned include the following:

Add a new functional area code entitled “long-term stewardship” to the system. This functional code will allow users to quickly search for long-term stewardship-related activities.

- The long-term stewardship program will include a task to develop lessons learned, evaluate them for entry into the system, analyze and share those that apply, track implementation, and report the status of lessons learned related activities.
- Annual self-assessments of operations and administration of long-term stewardship activities will identify needs and opportunity for improvement
- Regular best management practice reviews will identify where other facilities (DOE and other agencies) are implementing long-term stewardship activities similar to those at the INEEL at lower

cost and with better performance, will allow evaluation of the suitability of those practices for adoption at INEEL, and will lead to recommendations to DOE-ID regarding their adoption

- Regular reviews of lessons learned and other long-term stewardship performance assessments across the complex will identify prefailure indicators that may apply to the INEEL and will help determine what activities could be undertaken in response to such indicators to reduce or avoid the need for more expensive repair or maintenance of institutional controls and engineered controls.

Performance Measure

Continually improving long-term stewardship operations, using lessons learned to prevent adverse situations and implementing lessons learned to reduce long-term stewardship operating costs.

Benefits of the performance measure consist of the following:

- More efficient long-term stewardship activities,
- Avoidance of costly mistakes and noncompliance
- Safer operations
- Awareness that leads to better planning and reduced risk.

5.7.2 Strategic Objective 7.2

Identify and implement new technologies and communicate technology needs to researchers for further improvement or development.

Status

The GDE-112, “Detailed Work Plan Development Process Guidance,” includes guidance for identifying science and technology needed for inclusion in detailed work plans and documenting the technical issues that prevent effective EM cleanup at the INEEL. The science and technology coordination group at the INEEL maintains the database of these needs, which already includes some needs identified by projects engaged in stewardship activities.

Project managers are already encouraged to examine both commercially available and DOE-developed technologies, processes, and knowledge, since they are responsible for finding the best methods to deal with barriers to success on their projects and for implementing improved technology when appropriate and cost-effective.

The DOE Office of Legacy Management also supports incorporating developments in science and technology into long-term stewardship practices at sites. The office has information available to sites on strategies, science, and technologies from other DOE sites, other federal agencies, and the private sector to meet a project manager’s need. The office also evaluates and modifies national long-term stewardship strategies as necessary based on new science and technology.

Future Implementation Opportunities

The INEEL long-term stewardship program will work with project managers to periodically evaluate residual hazards, effectiveness of remedies, and management strategies such as monitoring and

institutional controls with a view toward new science and technology needs and applications. The long-term stewardship program will act as a liaison between the Idaho Completion Project and the INEEL research and development experts and will learn about recent advances in monitoring, surveillance, cap and engineered barrier behavior, radioactive flow and transport behavior, or other subject areas, and pass that information on to project managers for incorporation. Current systems will be evaluated to see if they are adequate to identify science and technology needs for long-term stewardship. Long-term stewardship program personnel will investigate implementation of a new system or process for identifying science and technology needs. This process would be similar to efforts performed by the Site Technology Coordination Group (STCG) to identify DOE complex wide needs.

Performance Measure

New science and technologies implemented at INEEL reduce long-term stewardship costs, extend life of institutional and engineered controls, or eliminate need for continued long-term stewardship.

Benefits of the performance measure consist of the following:

- Reduce the cost of long-term stewardship activities
- Move sites out of long-term stewardship more quickly
- Reduce maintenance needed for long-term stewardship equipment and controls
- Increase stakeholder trust in reliability of institutional and engineered controls.

5.7.3 Strategic Objective 7.3

Develop a process for transitioning sites out of long-term stewardship.

Status

The process for land transfers to other agencies is in federal laws and regulations; these transfers are governed by specific requirements found in documents such as the following: Federal Land Policy Act of 1976; Atomic Energy Act of 1954; Federal Property and Administrative Act of 1949; Energy Reorganization Act of 1974; DOE Organization Act of 1976; National Defense Authorization Act of 1993 (Hall Amendment).

However, because DOE plans to continue using the INEEL as a national multipurpose laboratory, DOE intends to retain management of all INEEL lands as currently configured. Consequently, those units, facilities, or areas released from long-term stewardship would be transferable only to other projects or programs operating at the INEEL. Currently there is no defined process to transfer units, areas, or facilities managed under stewardship to another INEEL program or project.

Future Implementation Opportunities

Given the long time (50 to 95 years or more) for a unit, area, or facility to reach acceptable risk levels and thus be eligible for release from stewardship responsibility, it is prudent to postpone the development of a process for transfer to another INEEL project until a potential need is expressed during long-range planning. By delaying the development of a transfer process until a need exists, INEEL long-term stewardship staff can develop a plan that reflects the most current concerns and needs of stakeholders and the Shoshone-Bannock Tribes, local area planners, and INEEL program or project

managers. To the extent practical, new projects and programs will be encouraged to embrace a brownfields concept and focus on redevelopment of previous stewardship areas. Such a focus will reduce environmental degradation associated with construction activities in previously undeveloped or greenfield areas.

- The long-term stewardship program will identify the areas that are or will be the first to be eligible to exit long-term stewardship after their risk levels have diminished to a level appropriate for unrestricted use
- The long-term stewardship program will identify legal and regulatory requirements that must be met to transition these areas out of long-term stewardship.

Performance Measure

A stewardship exit process and schedule are developed and implemented.

Benefit of the performance measures consist of the following:

- Reduced environmental liability for DOE
- Reduced cost as scope declines
- Increased trust of DOE.

6. FUTURE STEPS IN INEEL LONG-TERM STEWARDSHIP PROGRAM DEVELOPMENT

This plan identifies areas of focus for continued action and improvement. Where INEEL is already active in achieving the strategic objectives, those activities will continue. The long-term stewardship program will monitor the progress of these activities, ensure that they continue, and ensure that any changes do not affect INEEL's ability to meet the strategic objectives. The future implementation opportunities described in Section 5 will be the primary source for developing work scope for the next fiscal year and for future planning.

Long-term stewardship work scope and budget are subject to prioritization when available funds do not match budget requests. During detailed work planning for the next fiscal year, all activities described under future implementation opportunities will be evaluated within the total priority for all objectives of the program.

Given the long time frames and the issues of risk that long-term stewardship must address, uncertainty is inevitably an important element in the decision-making process. The stewardship program plans to report annually to the stakeholders and the Shoshone-Bannock Tribes, obtain their ideas for achieving the strategic objectives, and incorporate that information into stewardship management planning. As the program gains experience, updates to this implementation plan will reflect the new experience.

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